# Compelling Conversations - Big Data, Machine Learning, and Modeling

A chat between three different scientists on the similar methods they each use.

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Ph.D. student Jessica Howard of the Department of Physics & Astronomy, Professor Francois Primeau of the Department of Earth System Science, and Professor John Lowengrub of the Department of Mathematics.

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One studies the fabric of the Universe, one studies the oceans, and one studies mathematics and cancer. They come from different fields, but they all speak a common language, one that orbits around how to grapple with big sets of data using artificial intelligence tools like machine learning. In this latest episode of Compelling Conversations from the UCI School of Physical Sciences, join Dean James Bullock as he moderates a chat between three scientists — Ph.D. student Jessica Howard of the Department of Physics & Astronomy, Professor Francois Primeau of the Department of Earth System Science, and Professor John Lowengrub of the Department of Mathematics — as they chart the common research ground they all share. “The way that I see it,” said Howard, offering a perspective on the topic, “is machine learning is really becoming this extra tool to add to our toolbox that has been extremely powerful in both data analysis and in improving the speed and efficiency of these simulations that we rely so heavily on.”